

## 4.2 PROJECT

### COUPONS, DISCOUNTS, AND SALES TAX

Many retail stores offer shoppers incentives in the form of coupons. Sometimes these coupons are advertised as having the same value as cash, with the disclaimer that they have to be used before taxes. In this activity we will explore the use of such store-cash promotions.

Suppose you have received a coupon for your favorite department store Tohl's. The coupon states that you have 10 dollars' worth of Tohl's bucks that can be used when you spend at least 50 dollars in the store.

You decide to go to Tohl's and purchase four items: two T-shirts, a pair of socks, and a pair of jeans. The prices for these items are recorded in the following table.

Math Rocks T-shirt	\$13.99
Nickelback T-shirt	\$12.99
Pokémon Socks	\$8.99
Levi's 550 Jeans	\$27.99
Total	\$63.96

1. If you do not use your 10-dollar Tohl's bucks coupon, what would be your total, considering that the county where the store is located has a 6.75% sales tax? Round your answer to the nearest cent.
2. Now assume that there is a sale going on and everything in the store is 15% off. What would be your total without using the \$10 of Tohl's bucks and with the same 6.75% sales tax? Round your answer to the nearest cent.
3. Now, let's investigate what happens if you use the Tohl's bucks coupon. There are two options: the coupon is applied after the 15% discount or the coupon is applied before the 15% discount. Fill in the following table to compare the amount due with the two options. Round each calculation to the nearest cent, if necessary.

Option 1		Option 2	
Total	\$63.96	Total	\$63.96
15% Discount		Tohl's Bucks	-\$10.00
Tohl's Bucks	-\$10.00	15% Discount	
Total before Tax		Total before Tax	
Sales Tax		Sales Tax	
Amount Due		Amount Due	

Which option do you believe is the one actually used by stores? Explain your reasoning.